

**BARCODE-READING SYSTEM THAT
REQUIRES AN ACCESSORY FOR
ENHANCED OPERATION OF A BARCODE
READING APPLICATION**

RELATED APPLICATIONS

[0001] This application is a continuation of U.S. patent application Ser. No. 16/154,514 (the '514 application) filed on Oct. 8, 2018. The '514 application is a continuation of U.S. patent application Ser. No. 15/434,013 (the '013 application), filed Feb. 15, 2017, which issued as U.S. Pat. No. 10,095,900 on Oct. 9, 2018. The '013 application claims the benefit of U.S. Provisional Patent Application No. 62/396,737, filed Sep. 19, 2016. Each of the aforementioned applications is incorporated by reference as though fully set forth herein in its entirety.

BACKGROUND

[0002] Smartphones and other types of portable, hand-held computing devices, such as tablet computers, are in widespread use today, most often in connection with entertainment, communications and office productivity. Most smartphones include a camera, and applications have been developed for using the camera to read barcodes. In a typical known application an image feed from the camera is displayed on the display screen of the smartphone.

SUMMARY

[0003] In accordance with the present disclosure, a barcode-reading system for a mobile device is disclosed. The mobile device may include a camera assembly. The barcode-reading system may include a barcode-reading enhancement accessory securable to the mobile device and a barcode-reading application stored in memory of the mobile device and executable by a processor of the mobile device. The barcode-reading application may be configured to enable an enhanced mode of operation of the barcode-reading application conditional upon obtaining the indication of license entitlement from the barcode-reading enhancement accessory. The barcode-reading enhancement accessory may include an optics module, a reflective surface within the optics module, and an indication of license entitlement obtained after the barcode-reading enhancement accessory is secured to the mobile device such that the barcode-reading enhancement accessory covers at least a portion of the mobile device. The reflective surface may be positioned so as to fold a portion of a field of view of the camera assembly towards a target area beyond a top side of the mobile device when the barcode-reading enhancement accessory is secured to the mobile device.

[0004] The barcode-reading application may be configured to continue operating in the enhanced mode of operation for at least a defined number of barcode reads after the indication of license entitlement is obtained from the barcode-reading enhancement accessory.

[0005] The barcode-reading application may be configured to continue operating in the enhanced mode of operation for at least a defined period of time after the indication of license entitlement is obtained from the barcode-reading enhancement accessory.

[0006] The barcode-reading application is configured to enable the enhanced mode of operation for a defined period

of time after the barcode-reading enhancement accessory is removed from the mobile device.

[0007] The barcode-reading application may be configured to enable the enhanced mode of operation for a defined period of time after the barcode-reading enhancement accessory is secured to the mobile device plus a defined number of barcode reads after the barcode-reading enhancement accessory is removed from the mobile device.

[0008] The barcode-reading application may be configured to enable the enhanced mode of operation for a defined period of time after the barcode-reading enhancement accessory is secured to the mobile device plus a defined period of time after the barcode-reading enhancement accessory is removed from the mobile device.

[0009] The indication of license entitlement may be obtained after the barcode-reading enhancement accessory encapsulates the mobile device.

[0010] The indication of license entitlement may be obtained after the barcode-reading enhancement accessory covers at least one corner of the mobile device.

[0011] The barcode-reading enhancement accessory may further include a connector for coupling to the mobile device and a communication system providing the indication of license entitlement to the mobile device via the connector.

[0012] The barcode-reading application may be configured to continue operating in the enhanced mode of operation for at least a defined number of barcode reads after the indication of license entitlement is obtained from the barcode-reading enhancement accessory.

[0013] The barcode-reading application may be configured to continue operating in the enhanced mode of operation for at least a defined period of time after the indication of license entitlement is obtained from the barcode-reading enhancement accessory.

[0014] The barcode-reading application may be configured to enable the enhanced mode of operation for a defined period of time after the barcode-reading enhancement accessory is removed from the mobile device.

[0015] The barcode-reading application may be configured to enable the enhanced mode of operation for a defined period of time after the barcode-reading enhancement accessory is secured to the mobile device plus a defined number of barcode reads after the barcode-reading enhancement accessory is removed from the mobile device.

[0016] The barcode-reading application may be configured to enable the enhanced mode of operation for a defined period of time after the barcode-reading enhancement accessory is secured to the mobile device plus a defined period of time after the barcode-reading enhancement accessory is removed from the mobile device.

[0017] The indication of license entitlement may uniquely identify the barcode-reading enhancement accessory and the barcode-reading application. Upon obtaining the indication of license entitlement from the barcode-reading enhancement accessory, the barcode-reading system may provide the indication of license entitlement to a remote server to obtain license permissions associated with the indication of license entitlement.

[0018] The barcode-reading application may be configured to continue operating in accordance with the license permissions for at least a defined number of barcode reads after the indication of license entitlement is obtained from the barcode-reading enhancement accessory.